BOOLEAN OPERATORS

You're going to learn about boolean operators

Comparison Operators → Logical Operators

OPTIONAL

for experienced programmers

COMPARISON OPERATORS

to be true or not to be true that's the question

EQUALITY OPERATORS

These operators can be used with any comparable type and they yield a bool value

name	operator	example *boolean expressions*	result
equal	==	3 == 3	**true**
not equal	!=	"hello" != "hi"	**true**

ORDERING OPERATORS

These operators can be used with any comparable type and they yield a bool value

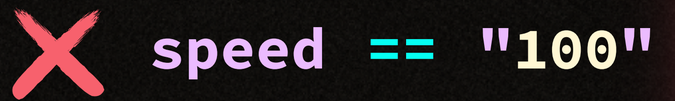
name	operator	example *boolean expressions*	result
less	<	3 **<** 2.5	**false**
less or equal	<=	4.0 **<=** 4	**true**
greater	>	"abc" **>** "cde"	**false**
greater or equal	>=	'b' **>=** 'a'	**true**

COMPARISON & ASSIGNABILITY

when you can't assign then you can't compare as well

COMPARISON & ASSIGNABILITY

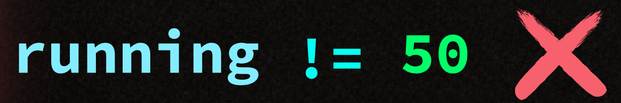
*when you **can't assign** then you **can't compare** as well*



```
func main() {
    var speed int
    speed = "100"

    var running bool
    running = 50

    var force float64
    speed = force
}
```



COMPARISON & ASSIGNABILITY

when you can't assign then you can't compare as well

```
func main() {
    var speed int
    speed =

    var running bool
    running =

    var force float64
    speed =      force
}
```

COMPARISON & ASSIGNABILITY

*when you **can't assign** then you **can't compare** as well*

✓ `speed >= 50`

`speed == int(force)` ✓

```
func main() {
    var speed int
    speed = 50

    var running bool
    running = true

    var force float64
    speed = int(force)
}
```

✓ `running == true` ✓

BOOLEAN OPERATORS

Congrats!

Comparison Operators ✓ → Logical Operators

LOGICAL OPERATORS: AND

“Logic will take you from A to B.Imagination will take you everywhere”

- Albert Einstein

a logical operator

combines

bool expressions

and yields

a bool value

a logical operator
can only work with
bool expressions

shouldIStay := true

shouldIGo := false

shouldIStay **OR** shouldIGo

```
myAge := 25
yourAge := 20
```

~~myAge OR yourAge~~

AND OPERATOR

"Logical AND" operator can only be used with bool values

operand	operator	operand	result
true	&&	true	true
true	&&	false	false
false	&&	true	false
false	&&	false	false

LOGICAL OPERATORS: OR

“Right or Wrong, make a decision”

- Anonym

OR OPERATOR

"Logical OR" operator can only be used with bool values

operand	operator	operand	result
true	||	true	true
true	||	false	true
false	||	true	true
false	||	false	false

LOGICAL OPERATORS: NOT

LOGICAL OPERATORS

operator	expression	result
&&	*true* *true* "hi" == "hi" && 3 > 2	true
||	*false* *true* "hi" != "hi" || 3 > 2	true
!	!("hi" != "hi" || 3 > 2)	false

LOGICAL OPERATORS

NOT Operator Example

```go
func main() {
    var on bool

    on = !on
    fmt.Println(on)

    on = !!on
    fmt.Println(on)
}
```

NOT OPERATOR

!true** becomes **false

!false** becomes **true

!!true** becomes **true

it can only be used with a **bool value**

```
$ go run main.go
true
true
```

BOOLEAN OPERATORS

Congrats!

Comparison Operators ✓ → Logical Operators ✓

summary

comparison operators

equality operators

ordering operators

equality operators

```
true == true   →   true
true != true   →   false
```

ordering operators

```
1 < 2   →   true

2 > 5   →   false

2 >= 2  →   true

3 <= 2  →   false
```

assignability and comparison

```
i, f := 15, 5.0
```

```
i > f
```

```
i > int(f)
```

a logical operator

combines

bool expressions

and yields

a bool value

logical operators

Logical AND Operator

```
true && true      → true
```

Logical OR Operator

```
false || false    → false
```

Logical NOT Operator

```
!false            → true
!!false           → false
```

short-circuit

```
false && true
```

runs

skips

```
true || false
```

runs

skips

IF STATEMENT

Congrats!

Boolean Operators ✓ → If Statement → Error Handling → Simple Statement